

## LISTING OF CLAIMS

Claim 1 (currently amended): A solid source method of growing a SiC film within an MBE system having a growth chamber and effusion cells having shutters, comprising the steps of:

charging a first crucible with a quantity of Fullerenes;  
installing said first crucible into a first effusion cell;  
placing said first effusion cell into the growth chamber;  
coating a second crucible with a layer of SiC;  
charging said second crucible with a quantity of solid Si;  
installing said second crucible into a second effusion cell;  
placing said second effusion cell into the growth chamber;  
providing a SiC substrate;  
preparing said substrate;  
loading said substrate into the growth chamber;  
evacuating the growth chamber;  
heating said substrate;  
heating said first effusion cell;  
heating said second effusion cell; and,  
growing a homoepitaxial layer of SiC upon said substrate by controllably actuating the effusion cell shutters.

Claim 2 (original): The method of claim 1 wherein said substrate is heated to a temperature of about 1500° C.

Claim 3 (original): The method of claim 1 wherein said first effusion cell is heated to a temperature range of about 500° C to 650° C.

Claim 4 (original): The method of claim 1 wherein said second effusion cell is heated to a temperature above about 1500° C.

Claim 5 (original): The method of claim 1 wherein said substrate is prepared by chemical-mechanical polishing.

Claim 6 (currently amended): A solid source method of growing a SiC film within an MBE system having a growth chamber and effusion cells having shutters, comprising the steps of:

*A1 end*

- charging a first crucible with a quantity of Fullerenes;
- installing said first crucible into a first effusion cell;
- placing said first effusion cell into the growth chamber;
- coating a second crucible with a layer of SiC;
- charging said second crucible with a quantity of solid Si;
- installing said second crucible into a second effusion cell;
- placing said second effusion cell into the growth chamber;
- providing a SiC substrate;
- polishing said substrate;
- cleaning said substrate with pressurized CO<sub>2</sub>;
- etching said substrate;
- rinsing said substrate;
- drying said substrate with pressurized N<sub>2</sub>;
- loading said substrate into the growth chamber;
- evacuating the growth chamber;
- heating said substrate to a temperature of about 1500° C;
- heating said first effusion cell to a temperature range of about 500° to 650° C;
- heating said second effusion cell to a temperature above about 1500° C; and,
- growing a homoepitaxial layer of SiC upon said substrate by controllably actuating the effusion cell shutters.